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VIII. An Account and Abstract of the Meteorological Observations communicated to the ROYAL SOCIETY, for the Years 1731, 1732, 1733, 1734 and 1735. By Geo. Hadley, Esq. F. R. S.

THE Diaries that continue throughout the faid Five Years, are only Read Dec. 9. 1742. those kept at Crane Court, Southwick, and Coventry. The Kentish Diary for the Year 1731 is wanting, and ends with the Year 1734. I have, in my former Account of the Years 1729 and 1730, given an Account of the Method and Contents of the Two First. Mr. Henry Beighton's, from Griff near Coventry, contains the Height of the Barometer at several times of the Day, in Inches and Decimals, and the Weather. That from Upsal by Mr. Celsius, from Hudicksval by Mr. Broman, and from Abo by Mr. Sporing, go no farther than the Year 1731; for which Year there is also one from Lunden by an Author whose Name I do not find; for it appears not to be Mr. Conrad Quensel's, whose end in the Year 1730, from the same Place: It contains Observations on the Barometer twice a Day, in Swedish Measure, which I have reduced to English; the Wind and Thermometer, which is a particular one of his own.

Mr. Weidler's Diary from Witemberg continues to the End of the Year 1734. In the Year 1732, he alters his Method of the Barometrical Heights, from Paris to London Measure, and the Days of the Month from the New Style to the Old one, to make them

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the better correspond with our Observations. He gives a very accurate Account of the *Phænomena* of several Northern Lights in the Ends of the Years 1731 and 1733, and Beginning of the Year 1734. His Diaries also contain some few Astronomical Observations, and extraordinary Occurrences.

Captain Christopher Middleton's Journal of his Voyage to Hudson's-Bay is published already in Philosophical Transactions, N° 418. The Naples Diary by Dr. Cyrillus ends in the Year 1732, and also

that from New-England by Mr. Dudley.

For the Year 1734, that from Dr. Pack, at Canterbury, exhibits in one View, by a Table for every Month of the Year, in the First Column, the Quantity of Rain, and the Evaporation: In the Second, Third and Fourth, the greatest and least and middle Heights of the Barometer, Thermometer, and Hygrometer: In the Fifth, the Meteors, by Variety of Marks, which he gives an Explanation of: In the Sixth, the Direction and Strength of the Winds. He gives also a Description of the Instruments he invented, and made use of, for Observation of the Quantity of Rain and Evaporation, and the Hygrometer, with a Draught of each. the Month of January, there is a particular Table, containing great Variety of Observations for every Day of that Month. The Thermometer is peculiar to himself, as far as I know; and he gives no Rule to reduce it to the Standard. There is a Letter of his, relating to a Chart of the Levels of Kent, which, he thinks, are so contrived as to cause a Circulation of Air from the Sea, which is of great Use. Mr. Forth's Diary, at large, from Darlington, begins in the Year 1737; but he has given an Abstract for the Three

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preceding Years: In which the greatest, least and middle Height of the Barometer is given for every Month; which Mean, upon Examination, I take to be found in the way used in these Tables, and therefore I have put them in as such. By a Letter of his it appears, his Thermometer stands at Forty-five Degrees, when Mr. Hawksby's stands at Thirty-three, which is Twelve Difference; and, I suppose, he means they differ so much throughout the Scale; so by that Rule I have reduced his Observations to the Table. At what Time of the Day the Observations were made, and where the Thermometer was placed; for the mean Heights differ but little from those at London, as he observes in his Letter. There is an Extract of a Letter from Signor Didacus de Revillas to Dr. Mortimer, containing an Account of the Rain that fell at Rome, beginning with August 1734, and ending with July 1735, in Paris Measure, which I have reduced to English.

Marquis Poleni's Diaries, at large, from Padua, end in the Year 1730; but he sent an Abstract of his Observations for the Six following Years, which was published in the Philosophical Transactions, N° 448. in which the Account of the Depth of Rain being intire, I have inserted it in the Table, for the readier comparing it with other Places.

These are all the Manuscript Observations communicated to the ROYAL SOCIETY, relating to Meteorological Observations. I have added the Observations of the Barometer, Thermometer, and Rain, at Edinburgh, from the Four Volumes of Medical Essays; and Mr. Doppelmaier's Barometrical Observa-

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tions, from the printed ones at Norimberg, to make the Tables as general as I could. The Tables are drawn up in the same manner as those for the Years 1729 and 1730; and from them various Observations and Comparisons may be made, in the same manner as has been done by several Hands heretofore, particularly, Dr. Plot, Dr. Derham, Mr. Locke, Marquis Poleni, and others, as appears in the Transactions of this Society; and many more such Observations may be added, by those that are curious in these things, at their Pleasure.

A Table of the monthly mean Heights, and also of the greatest Ascents and Doscents of the Barometer, observed in several Places, and communicated to the Royal Society, for the Year 1731, in Inches and Decimals.

	Crane-Court,	Southwick in	Coventry in	Upfal in Swe-	Hudick [val in
1731.	London.	Northampton(b.	Warwicksbire.	den.	Sweden.
	Lat. 51° 31'	Lat. 52 31	Lat. 52 34	Lat. 59 48	Lat. 62°
Fanuary	29,83	19, 62	29 ,44	176. 62	29 ,69
February	78	57	31	86	74
March	30 20	92	72	71	66
April	29 71	51	18	79	99
May	30 00	72	52	7.9	7.3
Fune	29 92	99	48		7.1
Fuly	56	72	51	8.8	76
August	98	65	48	35	92
September	96	70	49	65	40
October	93	67	47	84	82
November	77	\$4	33	19	95
December	88	19	39	99	88
Mean of the whole	20.80	20 .658	20 45	20 .74	29 ,77
Year	666	26.6		1/6	
4 Highett 30,50	Mar. Feb.	7.30,11 May 30 12,28,82 Feb. 12	30 29,96 May 31.	31. 30 , 48 Oct. 29 12. 28 ,66 Dec. 6.	29 30,52 Dec. 23 6. 28,59 Dec. 6.
Differ.	1 35			1,32	1,23

The foregoing Barometrical Table con tinued.

	Lunden in Swe-	Abo in Find-	Wittenberg in 1, , , ,	7 . 7	Edizburoh in
1731.	den.	land.	Saxony.	Naples in Italy.	Scotland
	Lat. 59° 48	Lat. 60 40	Lat. 52°	Lat. 41.	Lat. 56 20
Fanuary	29 ,37	29 ,54	29 ,48	29 .09	
February	43	52	09	11	
March	57	45	70	30	
April	43	55	84	03	
May	65	\$8	98	14	
Fune	\$1	48	73	29	29 05
Fuly	53	48	77	10	<u>7</u> 0
August	48	99	7.1	03	70
September	64	47	78	17	90
October	65	28 87	82	90	03
November	34	29 21	47	41	80
December	29	94	77	25	\$0
Mean of					
the whole Year.	29 ,48	29 ,44	99° 62	29 ,14	29 ,58
P Higheft 30 . Loweft 29	Higheft 30,91 Jan. 10, 31,12 Loweft 29,1 Jan. 29, 28,90	31,12 Dec. 21. 30,21 28,90 Dec. 7. 28,66	30,21 June 1 29 ,4 28,76 Jan. 29 28,76	28,76 Jan. 29.	
Differ.	18,1	2,22	1,55	49,00	

A Table of the monthly mean Heights, and also of the greatest Ascents and Descents of the Thermometers, observed in several Places in the Year 1731, and communicated to the Royal Society.

			_	_				-	*****	-	-			-		_
Edin- burgh.						84	41	45	6+	57	69	+		***************************************	28 July +. 95 Nov. 18	Y
Naples.	54 .5	45 . 9	45 4	1	9 95	7 7	12 7	14 3	6 81	26 3	6 92	49 9	32 33		5 June 20. 60 Jan. 23. 55	
Wittenberg.	82 ,4	79 9	72 2	6 2 9	46	43 7	41 3	39 7	48 9	2 09	66 4	77 9	1, 09		26 June 27. 108 Jan. 13. 82	
Abo.	93.3	98 5	. 91 \$	82	89	\$ 60 \$	50	49	\$ 19	73	83	90	74 31		20 June 21. 120 Jan. 31.	
Upfal.	8, 97		2 99	I 09	43 2	38 3	37 4	40 3	2 74	\$ 95	65 7	72 9	\$6 33		16 Aug. 2. 91, 6 Jan. 31.	.4 .4
Southwick.	72	\$ 99	57.5	5.7	42	38	36	3.7	C 1	6+	5 65	63 5	; ''		10 June 31. 89 Jan. 8.	
Crane-Court.	8, 07	64 4	57 2	5.0 2	39 9	36 I	32 I	33 I	4 85	9 94	6 65	63.1	49 ,8		8 July 31. 82 Jun. 31.	
1731.	Fannary	February	March	April	May	June	fuly	Angult	September	October	November	December	Mean of the whole Year.		Thermom Higheft Loweft Difference	

A Table, in Inches and Decimals, of the Depth of Rainwhich fell in several Places, in the Year 1731, communicated to the Royal Society.

Edin- burgh.					20, 2	54	1 8%	2 02	1 47	1 42	3 12	-
Padua.	2 ,546	3 093	3 434	602	4 253	3 402	7 372	2 2T6	4 354	1 653	306	34,207
Naples.	2,60	8 3	2 478	130	870	347	3 219	213	3	4 04	9/ 9	
Wittem- berg, N. S.	I 3557	934	108	2 610	919 1	1 513	222	868 1	890 I	5 699	1 927	18 ,620
U_Pfal	,774	330	\$87	699	3 074	2 681	I 402	1 913	1/1	460	307	16 ,002
South- wick.	.81	1 04	2 07	33	138	1 65	1 24	1 47	1 34	1 49	2 30	17 ,57
Crane- Court.	,125	82	1 26	30	30	2 085	1 73	125	1 30	1 53	1 4	13 ,60
1731.	January	Rebruary March	April	May	June Z/	1 111 1	Sangule	September	Nogromhor	December	lan man	Total.

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The Barometrical Table for the Year 1732.

							2	51	7					
Edinburgh.	29 ,3	1	9	2	\$	 ∞	7	6	9	2	8	8	29, 60	Teb. 14 30,13 Nov. 24. 30,29 Sept. 25. 29,96 Nov. 25 30,25 Dec. 9. 29,40 Fan. Sept. 31,0 Aug. 28. Jec. 31. 8 .70 Dec. 30. 28,32 April 5. 28,54 Dec. 30 28,729 Nov 17. 28,82 May 28. 28,22 Nov. 18. 1,43 1,97 1,42
Naples.	80, 92	11	14	28 95	96	97	29 38	03	22	IO	24	IoI	I, 92	29,40 Fan. Sep. 28,82 May 28.
Wittemberg.	29 ,54	53	35	43	54	54	54	49	64	39	47	52	29 ,51	30,25 Dec. 9. 28,729 Nov 17 1,524
Coventry.	72, 92	38	33	27	26	52	46	32	47	15	88	28	29 ,37	29 ,96 Nov. 25 28 ,54 Dec. 30 1 ,42
Kemt. Lat. §1.	29 153	79	\$2	40	36	71,	۶۶	99	70	27	£	48	29 ,53	30,29 Sept. 25 28,32 April 5
Southwick.	20 ,54	65	57	52	50	71	965	70	63	89	75	47	29 ,627	30 .13 Nov. 24 8 .70 Dec. 30 1 .43
Crane-Court.	20 ,75	87	76	71	8	96	91	95	16	\$\$	30 00	29 74	28, 92	1 5, 0, 1 1 2, 1 1 2, 1 1 2, 1 1 2, 1 1 2, 1 1 2, 1 1 2, 1 1 1 2, 1 1 1 1
1732.	j a . y	CUTHATY	March	Anril	16.29	true	Tuly	Anzult	cptember) to oper	November	December	Mean ot he whole Yerr.	2 Flighett Loweft Differ.

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The Thermometrical Table for the Year 1732.

			•	
Crane-Court.	Southwick.	Wittemberg.	Naples.	Edinburgh.
I, 99	67.5	\$, 98	52 55	75
\$ 22	57	67 4	43	65 .5
87	58 8	8 99	39 8	65 5
47 9	\$2	53 7	34 3	62
1	48 5	42 2	22 4	54
37 6	04	38	19 2	41 S
32 8	36 5	35 3	× ×	43
36	40	41 6	15 9	04
42	4	53 9	23	54
8 7 8	71	58 9	24 5	19
62 1	64 5	78 8	42	72
64 2	99	84 5	49 2	73 5
		o o		1. ()
49 3	5	50 30	31 25	37 33
19 Aug. 20.	20 Aug. 13. 88 Dec. 11.	3 5 Fuly 16.	4 July 17.	28 July 7. 89 Dec. 14.
Difference. 61	89	5, 601		151

A Table of the Depth of Rain for the Year 1732.

Edin- burgh.	2 409 3 109 3 109 3 109 3 61 3 61 4 82
Padwa.	2 ,129 1 959 2 765 5 432 1 864 2 872 3 112 9 164 9 557 3 528
Naples.	5 270 1 30 1 30 2 08 1 20 1 20 1 13 4 78 4 70 4 82 4 82 4 82 5 334
Wittem- berg,	1 464 1 464 2 514 1 864 2 308 2 929 1 390 1 346 1 524 1 524
Kent.	2 276 1 216 1 310 3 494 1 527 1 527 1 269 1 471 18 3954
South- wick.	0, 1 1 1 8 1 1 1 0 0 0, 1 4 1 4 0 8 1 1 1 1 0 0 0, 1 4 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Crane- Court.	1 90 1 15 2 765 3 2 2 1 1 65 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1732.	January Rebruary March April May Tune Tuly September October November Total.

The Barometrical Table for the Year 1733.

							2	54		Ĵ				
Edinburgh.	29 ,8	9	7	×	8	7	9	9	∞	7	\$	89° 62	,68 Sept. 22. 31 ,0 Jan. 18. ,62 Nov. 12. 28,4 Sept. 26.	2,6
Wittemberg.	29 ,78	49	62	57	89	99	55	66	70	74	89	29, 62	õ∞õ	2 ,6
Coventry.	29 .43	21	43	\$0	44	46	36	41	8+	\$0	36	29 ,40	,1 OH. 18 ,5 Feb. 2.	15, 1
Kent.	29 ,65	38	54	%	89	۶۱	43	5.3	30 04	90	29 66	29 ,65	30 ,52 OH. 19. 28 ,53 Sept. 25.	66, 1
Southwick.	29 ,68	43	65	70	67	29	26	29	72	75	53	29,63	30 ,17 Oct. 19. 18 ,69 Fan. 1.	1 ,48
Crane-Court.	90° 62 8I	59	8*	89	16	96	81	89	46	30 01	29 85	29 ,87	4 Highert 30,55 OH. [19 30,17 OH. 19 30,52 OH. 19,30 Lowell 18,95 Mar. 22 18,69 Jan. 1. 28,53 Sept. 25,28	9, 1
1733.	Fanuary February	March	Anril	May	Fune	Fuly	August	September	October	November	December	Mean ot he whole Year.	⊈ Highatt Loweft	Differ.

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1733.	Crane-Court.	Southwick.	Wittemberg.	Edinburgh.
Fanuary	I, 09	5. 19	8, 87	70
February	65	09	70	\$ 89
March	59	\$ 65	9 89	\$ 89
April	52 8	5 I S	53 6	59
May	45 3	47	\$ 05	15
June	35 2	36	38 3	41
Fuly	28 5	32 8	36 I	38
August	35 9	3 62	41 7	47
September	45 4	48	57 2	54
October	53 4	. 95	72 8	62 5
November	56	58	7 89	62 5
December	54	55 5	6 89	62.
Mean of	The state of the s			
the whole Year.	47 ,9	50	50 34	2.2
Thermom				-
Higheft	June 26.	10 June 25.	3 5 June 28.	28 June 26.
Lowell Discontinuous	3) Jan. 21.		99 Jan. 19.	30 ,5 Jan. 21.
Ulfference.	56	- -	۶۰ ۶۰	1.8.5

The Thermometrical Table for the Year 1733.

A Table of the Depth of Rain for the Year 1733.

												-	
Edinburgh.	337	52	63	81	80	13	હી	67	83	80	32	62	696
Edin	-	4	17		1	7		71	-	-		m1	19
ка.	,855	405	642	816	33	712	874	679	589	788	382	965	782
Padua.	-		~	3	~	71	г	3		а		-	33
·em-	,562	562	183	621	642	308	45	308	517	828	19	151	,742
Wittem- berg.	1		н		-	A	н	77			ľ	r	18
*	,235	925	191	815	216	742	979	354	499	790	180	201	8664
Kent	H	ч	6	н		1	1	'n	H		-	3	19
. k.	١٥	4	п		8	1	A	10	4	9	1	1	25
South-	H	1	77	-	10	4	14	n	-			-	17
- j.	69.	91	145	2	15	15	44	225	37	16	12	4	6,
Crane- Court.		-	7	-		77	-	lu.	-			4	18
1733.	Fanuary	February	March	April	May	Fune	Fuly	August	September	October	November	December	Total.

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The Barometrical Table for the Year 1734.

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1734.	Darlington	Wittenberg.	Noremburg.	Edinburgh.
Fanuary		20 ,8	28 ,58	29 99
February		73	96	9
March	29 ,40	51	34	5
April	9	59	97	8
May	30 IO	\$+	99	∞
Fune	29 8	63	42	∞
Fuly	8	56	99	7
Augult	6	09	63	9
September	7	3.7	7.1	9
October	8	07	8.7	5
November	3	99	7.1	6
December	8	5.7	5	0
Mean of the whole Year.	29 ,87	29 ,56	28 ,63	29 ,64
Fligheff Loweft Differ		(30,35 Fan. 11. 29 28 .45 Dec. 14. 27 1.80	29 ,2 Jan. 22. 30 27 ,66 Dec. 26. 28	30 ,6 Jan. 12. 28 Dec. 14. 2.6
		. 3.2	575	

28

the whole

Mean of

December November

October

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Edinburgh. Wittenberg. The Thermometrical Table for the Year 1734. 5 Darlington. ₽ Southwick. 50 Crane-Court. 47 34 4 4 August September

Fanuary February

March April

May Fune Fuly

57 ,5 58 ,5	9 June 28. 19,5 June 19. 102 Nov. 27. 92 Jan. 13. 72,5	y
49 3 52	Frigheft 20 Aug. 8. 23 Aug. 23. Loweft 77.5 Jan. 16. 87 Jan. 10. Differ. 57.5	
the whole Year	Thermom. Higheft 20 A Loweft 77.5 Differ. 57.5	

1734.
Year
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ain
of Rain
Depth
fthe
A'Table

Edin- burgh.	2 12 2 12 3 31 2 21 2 21 2 21 1 28 1 17 1 32 1 6 2 33
Padua.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Rome.	3 59 5 83 5 15 6 02
Wittem- berg.	2 04 2 04 2 05 3 7 5 3 7 7 2 47 2 01 2 08 2 08 2 08 2 08 2 08 2 08 2 08 3 7 7 5 7 5 7 5 7 5 7 6 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
Darling. ton.	2 2 2 1 2 2 1 2 2 1 2 2 1 2 2 2 1 2 2 2 1 2
Canter- bury.	1 1 49 1 1 54 1 1 54 1 1 54 1 1 61 1 61 1 61 1 61 1 61 1 61 1 61 1
Kent.	1 ,63 1 98 1 98 2 18 2 18 2 16 1 79 2 16 2 16 2 16 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
South- wick.	2
Crane- Court.	1 ,01 1 935 1 79 4 45 4 17 3 21 1 11 1 16 1 77 4 27 4 27 2 4 57
1734.	yanuary Feernary Fiarch April May Yuly Appromer September October Navember Drtwo

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Edinburzh.	2.0		<u> </u>		×									
Norimberg.	28 ,3	7	4.1	00	54	63	64	833	38	7.2	09	12	28 ,63	29,22 Nov. 24, 28,02 Jan. 10.
Darlington.	29 34	4	73	45	30 7	29 92	65	92	97	30 :0	1	80	29 ,75	
Coventry.	29 213	42	15	26	43	35	32	46	52	4.4	26	27	29 ,34	30 Feb. 2. 27, 39 Jan. 8.
Southwick.	29 ,47	63	36	49	09	\$6	50	72	69	69	45	65	29 ,56	30,17 Feb. 11.30 Feb. 2.
Crane-Court.	30,09	Ħ	29 84	30 03	14	11	02	31	23	61	00	13	30,09	Higheft 31 Jan. 4. Loweft 28 6 Jan. 8. Diff.
1735.	Fannary	Pebruary	March	April	May	Fune	Fuly	lugust.	eptember	October	November	December	Vican of he whole Year.	p Higheff Loweft Diff:

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The Thermometrical Table for the Year 1735.

Edinburgh	73	69	5+					
Darlington.	62 8	56 2 49 3	45 2 39 I	36 2	56 2	58 64 2	۶۵ ،9	
Southwick.	65 62 5	5 05	48	i 1	42	56 5	52	21 Aug. 13. 81 Dec. 23.
Crane-Court.	62 8	55 9	3 6 5	35 8	39 7	1 25	11, 0}	11 Aug. 13. 76 Dec. 16.
1735.	January February	Merch April	May Jane	July Angult	September Ostober	Navember December	Mean of the whole Year.	Thermon Higheft Loweft Difference

A Table of the Depth of Rain for the Year 1735.

Rome.	926		5 30	2 72	2 68	3 22	00						
Padua.	14 20, 4	ι	~	I	્ટ જ	,	4		1 28	1 57	54	23	29 ,68
Darling- ton.	1 365	2 40	2 26	1 18	1 50	2 2I	3 11	2 03	1 04	86 1	2 37	72 1	24 ,07
South- wick.	2 ,1	7	n n	7	1 1	4	۳	73	3	L 1		2 1	25
Crane- Court.	2 ,36	1 78	2 24	91 1	2 04	2 08	3 14.		9\$ I	98	5 69	S 1	22 ,83
1735.	January	February	March	April	May	Fune	Fuly	Augu/t	September	October	November	December	Total.

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